CURSOR™
Programs for PET™ Computers

"Truth is never pure
and rarely simple."

Oscar Wilde

A CURSORY GLANCE

It is always fun to speculate, so this month let's share some thoughts on what may happen over the next 12 to 18 months in the personal computing area. As the summer of 79 is ending, there are still only three mass market personal computers: Radio Shack, Apple, and the Commodore CBM (nee PET). For those who haven't been tuned in, you may not have noticed that the wizards at 3330 Scott Blvd. have decided that the connotations of the product name "PET" were somehow not serious enough. Therefore, the printers, for example, are known as CBM this or that. Ah, but the plot thickens: Commodore Business Machines didn't have that ring of seriousness either, and somehow reminded folks of calculators or whatever. So, there will be (or is) a new entity called "Commodore Business Systems".

There are several new products on the near horizon that will affect the personal computing market quite a bit. Atari will release its new home computers in September on the West Coast. The Atari is a nice, solid little machine that has had the benifit of being designed after the early attempts of the current "big three". The human engineering of this product is exceptional, and the people who are guiding its development seem to think that they should provide strong support in the form of well written manuals with the very first machines that come off the production lines. (The days where companies can continue to sell machines that have sketchy "preliminary" user manuals is fast drawing to a close. People don't want to solder their computers themselves anymore, and they simply will quit buying computers that have inadequate documentation.) As you have heard, the sleeping giant Texas Instruments has finally brought out their first little computer. Frankly, the machine is something of a puzzle, since it has a rather strange mix of features. For example, it has 16K of user memory (RAM), which is a nice amount for a beginning machine. However, there is no way that you can add more memory! TI has decided that you don't need upper and lower case, and will tolerate a strange calculator style keyboard. Then there is the toy company Mattel, which has a clever idea: sell them something they can use for about $250, then later you can get them to spend another $250-$300 to add a keyboard and tape deck so that the machine can be used for something useful.

Another new product that can't be ignored is the reborn Radio Shack, known as the Model II. It is clearly a business machine, not a home computer. It comes with 8 inch floppy disk drives that hold about 500,000 characters each, and will speak languages other than Basic. The Model II will be a tough product for Commodore to compete with, at least with the current CBM/PET machines. There are three main reasons to buy and use a computer: for use in your business, (general ledger, accounts receivable and payable, payroll, inventory, word processing), for use in an educational environment, (teaching programming, computer literacy), and as a personal computer (games, word processing, technological toy). The Radio Shack Model II is clearly aimed at the business applications, and will also be used in some educational settings, but is not a personal computer as we know personal computers today. The old Radio Shack (Model I??) was a hastily designed machine that happened to be promoted right, and that was given very good support by Tandy. The first generation of the Commodore computers were an interesting lot! clearly designed with more finesse than Radio Shack (although in several ways not as nice as the Apple), and trying to be all things to all people. For many serious business applications, the current Commodore disk system will be inadequate due to the relatively small amount of storage on each disk (170,000 characters). (Apple has the same problem, only worse, as they get even less storage on the 5 inch diskettes.) As I have said before, the disk operating system that Commodore is currently using has design problems that will limit its usefulness in some end-user applications. The unconventional way that they chose to do random access is one example, and one that it will take a redesigned DOS to correct.

During the coming year, I think that we will see at least one new computer from Commodore, so that they can remain competitive with the many new products from other companies that will appear during the year. I would imagine that one possible machine will look similiar to the current large keyboard Pet, but have either one or two 5 inch disks built-in, probably under the CRT screen. I would expect a different disk operating system (easier to use than the 2040 system) will be designed as part of the new machine. I wouldn't be suprised if the new product has an 80 character wide screen, rather than 40. Color? I don't think so. Commodore is going to leave that part of the market to Atari and others. In the somewhat longer term (18 to 24 months), I think we can look forward to large disk systems that talk to several Pets. Nestar may be able to do this sooner than Commodore, but somebody will do it.

One last rumor: a friend has a friend who works in the R&D part of IBM. My friend's friend claims that IBM will soon have a machine for less than $10,000 that will be a "turn-key" business computer with common business software built-in. In fact, it may not be programmable by the user at all. When the enemy brings in heavy artillery, it can be really difficult to win with sling-shots.

CURSOR #12 HAS THESE PROGRAMS:

COVER12   Symmetrical graphic designs by Glen Fisher.

CANYON!   Train to become a starship pilot, using either Joysticks or the numeric pad to control your ships. By Larry Stevens.

GAUSS!   Watch (and listen) as the Pet drops 1000 balls an hour into one of 12 bins. By Glen Fisher.

PICKUP   Your mission: gather all of the dangerous chemicals. A game of great skill and daring. By Larry Phillips.

PIEGRAM   You and the Pet throw pies at one another. Idea by Sheila Dolgowich.

FLIGHT!   Watch as Canadian astronauts land on the moon. By Ken Morley.

MORE ABOUT THE PROGRAMS

If you are using an 8K Pet with the 2040 disk, please do not use the DOS Support "Wedge" program with Cursor programs, as we can't afford to lose almost 300 bytes of memory. NOTE: Program names that end with an exclamation point "!" use the Pet's CB2 sound. See Cursor #3 for a diagram of how to hook up your Pet with sound. Be careful about using the STOP key with programs that use sound. Should you accidentally do so, you can stop the sound by typing "POKE 59467,0".

COVER12... You will see some pretty designs displayed on the screen. Notice that they are always symmetrical, and have either two or four "points". The designs are generated randomly, yet rules are applied that produce order.

CANYON!... Cursor will not be responsible if you wear out your Pet by playing this game for hour after hour. You are the pilot of a starship, and try to navigate down a twisting (and gradually narrowing) canyon. You can use joysticks from Creative Software, Coyote Electronics or Chuck Johnson with this game. Naturally, you can also use the numeric pad as a controller (4=left, 6=right). Yes, there is sound when you crash. Han Solo would be proud!

GAUSS!...This demonstration of probability principles is also a lot of fun to watch (and listen). Note: a Pet without sound is like a day without sunshine. Gauss! displays a constantly changing bar graph that shows the results of a ball bearing that is dropped through 11 rows of pegs, with a probability of .5 at each peg. If you want to do some interesting reading that relates to this program, consult any introductory statistics or probability text. Topics to read about include the binomial formula, Pascal's arithmetic triangle (which others wrote about much earlier), and the normal probability curve. (Especially recommended is 'The Nature and Growth of Modern Mathematics', by Edna E. Kramer, Hawthorn Books, 1970, pages 313,314, and 327-330.)

PICKUP... The premise of this game is simple: you are faced with a terrible laboratory accident, where four different chemicals have been dropped on the floor. You have a special tool (a scoop) that you control with either the numeric pad or joysticks. You try to pick up the chemicals, and deposit them in the proper corner. There are some clever twists: you are rewarded for working efficiently by a scoring rule that greatly increases your score when you pick up lots of a chemical in one "run". Likewise, if you deposit the chemicals at the wrong corner, you lose twice as much as you were carrying. When the game begins, your scoop is on the top row, and is shown as the white cursor. Once you begin moving, it continues moving. Learning to control the scoop is a frustrating (but rewarding) experience. Strangely enough, the numeric keypad is an easier way to play this game than the joysticks, due to more precise control. When you get really good, try the one minute speed=nine "blitz" game. Since there are twenty-five of each chemical, you will maximize your score by picking up all 25 of one chemical in one run, and repeating this for the remaining chemicals. For those of you that are already ZAP fanatics (see Cursor #2), I can only say "Here goes a few hundred more hours of your life".

PIEGRAM...You throw pies at the (hidden) Pet, trying to find where it is. Likewise, it throws pies at you, and uses triangulation to determine where you are. Ah, but at any turn, you (and the Pet) have the option of moving one square, or throwing a pie anywhere. The results of three most recent throws by each side are displayed, along with distance to the opponent at each throw. Shots earlier than the most recent three are just shown on the board as an asterisk "*". After the Pet has thrown three pies, it will calculate how likely it is that you are in each square of the board. While this is happening, a question mark will be shown in the square that it is think about. (No, it doesn't cheat!)

FLIGHT!... (You'll need sound for this one, too.) A nice little landing simulation, with an unAmerican (or is that non-American) crew.

CORRECTION FOR CIRCLE IN CURSOR #9

This correction fixes a problem with the heading values:

Line 9150 should read: IF SIN(EO-BO)>=0 THEN HD = 360 - HD

NOTE that the variables end in "oh", not zero... In the incorrect version, it was (BA-EA).

MISC & ETC

We continue to hear good things about Programma International, Inc. 3400 Wilshire Blvd., Los Angeles, CA 90010 (213) 384-0579. They have a version of that strange (but compact, fast and powerful) language known as FORTH. *** A machine language trace program is available from Compucraft Corp., 974 Apokula Place, Kailua, Hawaii 96734 *** Another new vs. old ROM gottcha: GOTO and GO TO are not the same. Be careful! *** The Programmers Toolbox (see review in Cursor #11) will add a great deal of power to your Pet. The Palo Alto IC people have had a bit of a hassle getting the roms back from both of their vendors, and are backordered. But get your order in, it will be the best value (by far) that you'll find. *** The TRENDCOM PAL printer from Skyles Electric wWorks, 10301 Stonydale Dr., Cupertino, CA 95014 (408) 735-7891 is a good piece of equipment. It does use thermal (rather than plain) paper, which is more expensive. However, about $5 worth of paper will give you an hour and a half of solid printing. At $450, it costs about half as much as the Commodore printer, although it doesn't do as much. (You may be surprised how much a printer will help your programming...)

PRACTICAL PROGRAMS

We get mail from subscribers asking for more practical programs. We hear you, and are currently planning several programs that will be useful to you. However, we would very much like to get your ideas on what type of programs you would use yourself. Sometimes it is a little difficult to admit that there is a large class of things that is more easily done with 3 by 5 inch cards, or a notebook or a chalkboard than with a small computer. For those of you with only 8K of memory, please realize that it is really hard to get a meaningful, practical program into 8K. Probably one of the better investments is an 8K Skyles memory board (mine has been as solid as a rock). An extra 8K makes a hell of a lot of difference in what you can do, especially where there is a fair amount of data involved. Again, we need your ideas about practical programs. In fact, we will pay significant fees for program ideas that are well thought out, and that meet our needs.